



October 24, 2016

Meagan E. Ormand Golder Associates Inc. 2108 W. Laburnum Ave. Suite 200 Richmond, VA 23227

RE: Project: Bremo Weekly Process Pace Project No.: 92316787

Dear Meagan Ormand:

Enclosed are the analytical results for sample(s) received by the laboratory on October 20, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nicole Gasiorowski

Micolo Lassorouske

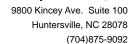
nicole.gasiorowski@pacelabs.com

Project Manager

Enclosures

cc: Ron DiFrancesco, Golder Associates Inc.
Arielle Green, Golder Associates Inc.
Martha Smith, Golder Associates Inc.
Mike Williams, Golder Associates Inc







CERTIFICATIONS

Project: Bremo Weekly Process

Pace Project No.: 92316787

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320 Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Missouri Certification #: 236

Mississippi Certification: FL NELAC Reciprocity

Montana Certification #: Cert 0074

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

Eden Certification IDs

205 East Meadow Road Suite A, Eden, NC 27288 North Carolina Drinking Water Certification #: 37738 Nebraska Certification: NE-OS-28-14

Nevada Certification: FL NELAC Reciprocity

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 Oklahoma Certification #: D9947 Pennsylvania Certification #: 68-00547 Puerto Rico Certification #: FL01264 South Carolina Certification: #96042001 Tennessee Certification #: TN02974 Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity Virginia Environmental Certification #: 460165

Wyoming Certification: FL NELAC Reciprocity West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

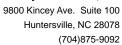
Wyoming (EPA Region 8): FL NELAC Reciprocity

South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Wastewater Certification #: 633

Virginia/VELAP Certification #: 460025



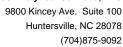


SAMPLE ANALYTE COUNT

Project: Bremo Weekly Process

Pace Project No.: 92316787

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92316787001	T2-161019-1354-S3	SM 2540D	KCE	1	PASI-E
		EPA 350.1 1993 Rev 2.0	KCE	1	PASI-E
		SM 4500-CI-E-2011	KCE	1	PASI-E
		EPA 1664B	JMS	1	PASI-C
		EPA 200.7	CKJ	1	PASI-O
		Trivalent Chromium Calculation	CKJ	1	PASI-O
		EPA 200.8	CKJ	10	PASI-O
		EPA 245.1	WAB	1	PASI-A
		EPA 218.7	KEK	1	PASI-O





Project: Bremo Weekly Process

Pace Project No.: 92316787

Method: SM 2540D

Description: 2540D TSS, Low-Level, Eden
Client: Golder_Dominion_Bremo
Date: October 24, 2016

General Information:

1 sample was analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

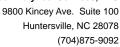
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.





Project: Bremo Weekly Process

Pace Project No.: 92316787

Method: EPA 350.1 1993 Rev 2.0

Description: 350.1 Ammonia

Client: Golder_Dominion_Bremo

Date: October 24, 2016

General Information:

1 sample was analyzed for EPA 350.1 1993 Rev 2.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

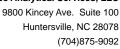
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





Project: Bremo Weekly Process

Pace Project No.: 92316787

Method: SM 4500-CI-E-2011

Description: 4500 Chloride

Client: Golder_Dominion_Bremo

Date: October 24, 2016

General Information:

1 sample was analyzed for SM 4500-CI-E-2011. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

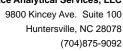
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





Project: Bremo Weekly Process

Pace Project No.: 92316787

Method: EPA 1664B

Description: HEM, Oil and Grease
Client: Golder_Dominion_Bremo
Date: October 24, 2016

General Information:

1 sample was analyzed for EPA 1664B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

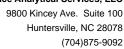
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





Project: Bremo Weekly Process

Pace Project No.: 92316787

Method: EPA 200.7
Description: 200.7 MET ICP

Client: Golder_Dominion_Bremo

Date: October 24, 2016

General Information:

1 sample was analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92316787

Method:Trivalent Chromium CalculationDescription:Trivalent Chromium CalculationClient:Golder_Dominion_BremoDate:October 24, 2016

General Information:

1 sample was analyzed for Trivalent Chromium Calculation. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92316787

Pace Analytica

Method: EPA 200.8

Description: 200.8 MET ICPMS
Client: Golder_Dominion_Bremo
Date: October 24, 2016

General Information:

1 sample was analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92316787

Method: EPA 245.1 Description: 245.1 Mercury

Client: Golder_Dominion_Bremo

Date: October 24, 2016

General Information:

1 sample was analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92316787

Method: EPA 218.7

Description: Hexavalent Chromium by IC
Client: Golder_Dominion_Bremo
Date: October 24, 2016

General Information:

1 sample was analyzed for EPA 218.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



ANALYTICAL RESULTS

Project: Bremo Weekly Process

Pace Project No.: 92316787

Date: 10/24/2016 05:01 PM

Sample: T2-161019-1354-S3	Lab ID: 923	316787001	Collected: 10/19/1	6 13:54	Received: 10	0/20/16 13:40	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D TSS, Low-Level, Eden	Analytical Met	hod: SM 254	40D					
Total Suspended Solids	1.2	mg/L	1.0	1		10/21/16 10:0	4	
350.1 Ammonia	Analytical Met	hod: EPA 35	50.1 1993 Rev 2.0					
Nitrogen, Ammonia	5.0	mg/L	0.20	1		10/21/16 10:3	0 7664-41-7	
4500 Chloride	Analytical Met	hod: SM 450	00-CI-E-2011					
Chloride	48.3	mg/L	5.0	5		10/21/16 12:3	7 16887-00-6	
Field Data	Analytical Met	hod:						
Collected By	L. Hamelman			1		10/19/16 14:0	1	
Collected Date	10/19/16			1		10/19/16 14:0	1	
Collected Time	13:54			1		10/19/16 14:0	1	
Field pH	7.4	Std. Units	0.10	1		10/19/16 14:0	1	
HEM, Oil and Grease	Analytical Met	hod: EPA 16	664B					
Oil and Grease	ND	mg/L	5.0	1		10/21/16 08:1	5	
200.7 MET ICP	Analytical Met	hod: EPA 20	00.7 Preparation Met	hod: EP	A 200.7			
Tot Hardness asCaCO3 (SM 2340B	216000	ug/L	3300	1	10/21/16 13:06	10/21/16 16:3	9	
Trivalent Chromium Calculation	Analytical Met	hod: Trivale	nt Chromium Calcula	tion				
Chromium, Trivalent	ND	ug/L	5.0	1		10/21/16 18:1	5 16065-83-1	
200.8 MET ICPMS	Analytical Met	hod: EPA 20	00.8 Preparation Met	hod: EP	A 200.8			
Antimony	ND	ug/L	5.0	1	10/21/16 13:06	10/21/16 17:3	9 7440-36-0	
Arsenic	414	ug/L	5.0	1	10/21/16 13:06	10/21/16 17:3	9 7440-38-2	
Cadmium	ND	ug/L	1.0	1	10/21/16 13:06	10/21/16 17:3	9 7440-43-9	
Copper	ND	ug/L	5.0	1	10/21/16 13:06	10/21/16 17:3	9 7440-50-8	
Lead	ND	ug/L	5.0	1	10/21/16 13:06	10/21/16 17:3	9 7439-92-1	
Nickel	ND	ug/L	5.0	1	10/21/16 13:06	10/21/16 17:3	9 7440-02-0	
Selenium	ND	ug/L	5.0	1	10/21/16 13:06	10/21/16 17:3	9 7782-49-2	
Silver	ND	ug/L	0.40	1	10/21/16 13:06	10/21/16 17:3	9 7440-22-4	
Thallium	ND	ug/L	1.0	1	10/21/16 13:06	10/21/16 17:3	9 7440-28-0	
Zinc	ND	ug/L	25.0	1	10/21/16 13:06	10/21/16 17:3	9 7440-66-6	
245.1 Mercury	Analytical Met	hod: EPA 24	5.1 Preparation Met	hod: EP	A 245.1			
Mercury	ND	ug/L	0.10	1	10/24/16 11:40	10/24/16 14:1	6 7439-97-6	
Hexavalent Chromium by IC	Analytical Met	hod: EPA 21	8.7					
Chromium, Hexavalent	ND	ug/L	1.0	1		10/21/16 14:4	2 18540-29-9	



Project: Bremo Weekly Process

Pace Project No.: 92316787

QC Batch: 334076 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Analysis Description: 2540D TSS, Low Level, Eden

Associated Lab Samples: 92316787001

METHOD BLANK: 1851703 Matrix: Water

Associated Lab Samples: 92316787001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Total Suspended Solids mg/L ND 1.0 10/21/16 10:02

LABORATORY CONTROL SAMPLE: 1851704

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Suspended Solids** mg/L 250 264 106 90-110

SAMPLE DUPLICATE: 1851705

Date: 10/24/2016 05:01 PM

Parameter Units Parameter Units Dup Result Result RPD Qualifiers

Total Suspended Solids mg/L ND ND



EPA 350.1 1993 Rev 2.0

350.1 Ammonia, EDEN

Analysis Method:

Analysis Description:

Project: Bremo Weekly Process

Pace Project No.: 92316787

QC Batch: 334070

Date: 10/24/2016 05:01 PM

QC Batch Method: EPA 350.1 1993 Rev 2.0

Associated Lab Samples: 92316787001

METHOD BLANK: 1851683 Matrix: Water

Associated Lab Samples: 92316787001

> Blank Reporting

Parameter Limit Qualifiers Units Result Analyzed

Nitrogen, Ammonia ND 0.20 10/21/16 10:26 mg/L

LABORATORY CONTROL SAMPLE: 1851684

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrogen, Ammonia mg/L 5.1 101 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1851685 1851686

MS MSD 92316782001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Nitrogen, Ammonia ND 5 5 5.1 90-110 mg/L 5.1 102 102 0

Qualifiers



QUALITY CONTROL DATA

Project: Bremo Weekly Process

Pace Project No.: 92316787

Date: 10/24/2016 05:01 PM

QC Batch: 334114

QC Batch Method: SM 4500-CI-E-2011

Analysis Method: SM 4500-CI-E-2011
Analysis Description: 4500 Chloride, EDEN

Associated Lab Samples: 92316787001

METHOD BLANK: 1851919 Matrix: Water

Associated Lab Samples: 92316787001

Blank Reporting
Parameter Units Result Limit Analyzed

Chloride mg/L ND 1.0 10/21/16 12:27

LABORATORY CONTROL SAMPLE: 1851920

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chloride mg/L 10 11.0 110 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1851921 1851922

MS MSD 92316782001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 47.7 90-110 Chloride mg/L 10 10 56.8 58.8 91 110 3



EPA 1664B

Project: Bremo Weekly Process

Pace Project No.: 92316787

QC Batch: 334034 Analysis Method:

QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease

Associated Lab Samples: 92316787001

METHOD BLANK: 1851535 Matrix: Water

Associated Lab Samples: 92316787001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Oil and Grease mg/L ND 5.0 10/21/16 08:15

LABORATORY CONTROL SAMPLE: 1851536

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Oil and Grease mg/L 40 35.9 90 78-114

MATRIX SPIKE SAMPLE: 1851537

Date: 10/24/2016 05:01 PM

35271256001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 1.1U Oil and Grease 40 34.6 86 78-114 mg/L



Project: Bremo Weekly Process

Pace Project No.: 92316787

Date: 10/24/2016 05:01 PM

QC Batch: 334283 Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury

Associated Lab Samples: 92316787001

METHOD BLANK: 1853096 Matrix: Water

Associated Lab Samples: 92316787001

ParameterUnitsBlank ResultReporting LimitAnalyzedQualifiersMercuryug/LND0.1010/24/16 14:04

LABORATORY CONTROL SAMPLE: 1853097

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Mercury ug/L 2.5 2.6 104 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1853098 1853099

MS MSD 92316782001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual ug/L ND 2.5 2.3 70-130 6 Mercury 2.5 2.4 96 91



Project: Bremo Weekly Process

Pace Project No.: 92316787

Date: 10/24/2016 05:01 PM

QC Batch: 327454 Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET

Associated Lab Samples: 92316787001

METHOD BLANK: 1747975 Matrix: Water

Associated Lab Samples: 92316787001

ParameterUnitsBlank ResultReporting LimitAnalyzedQualifiersTot Hardness asCaCO3 (SM 2340Bug/LND330010/21/16 16:26

LABORATORY CONTROL SAMPLE: 1747976

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Tot Hardness asCaCO3 (SM 2340B ug/L 82700 86100 104 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1747977 1747978

MS MSD 92316789001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Tot Hardness asCaCO3 (SM 214000 82700 82700 305000 70-130 ug/L 309000 110 114 1 2340B

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92316787

QC Batch: 327455 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Associated Lab Samples: 92316787001

METHOD BLANK: 1747979 Matrix: Water

Associated Lab Samples: 92316787001

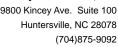
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Antimony	ug/L	ND ND	5.0	10/21/16 16:59	
Arsenic	ug/L	ND	5.0	10/21/16 16:59	
Cadmium	ug/L	ND	1.0	10/21/16 16:59	
Copper	ug/L	ND	5.0	10/21/16 16:59	
Lead	ug/L	ND	5.0	10/21/16 16:59	
Nickel	ug/L	ND	5.0	10/21/16 16:59	
Selenium	ug/L	ND	5.0	10/21/16 16:59	
Silver	ug/L	ND	0.40	10/21/16 16:59	
Thallium	ug/L	ND	1.0	10/21/16 16:59	
Zinc	ug/L	ND	25.0	10/21/16 16:59	

Date: 10/24/2016 05:01 PM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	50	47.0	94	85-115	
Arsenic	ug/L	50	50.4	101	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Copper	ug/L	50	50.6	101	85-115	
Lead	ug/L	50	49.8	100	85-115	
Nickel	ug/L	50	48.8	98	85-115	
Selenium	ug/L	50	52.3	105	85-115	
Silver	ug/L	5	4.9	99	85-115	
Thallium	ug/L	50	48.9	98	85-115	
Zinc	ug/L	250	250	100	85-115	

MATRIX SPIKE & MATRIX SI	PIKE DUPLICAT	E: 17479	81		1747982						
			MS	MSD							
	923	316782001	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Antimony	ug/L	ND	50	50	51.4	50.9	95	93	70-130	1	
Arsenic	ug/L	38.2	50	50	88.3	88.2	100	100	70-130	0	
Cadmium	ug/L	ND	5	5	4.7	4.8	94	95	70-130	2	
Copper	ug/L	ND	50	50	49.3	47.8	98	95	70-130	3	
Lead	ug/L	ND	50	50	51.7	51.6	103	103	70-130	0	
Nickel	ug/L	ND	50	50	50.8	49.3	97	94	70-130	3	
Selenium	ug/L	ND	50	50	50.1	50.7	98	99	70-130	1	
Silver	ug/L	ND	5	5	4.6	4.7	93	93	70-130	0	
Thallium	ug/L	ND	50	50	51.3	51.1	102	102	70-130	0	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





Project: Bremo Weekly Process

Pace Project No.: 92316787

Date: 10/24/2016 05:01 PM

MATRIX SPIKE & MATRIX SPIR	E DUPLICAT	E: 17479	81		1747982						
			MS	MSD							
	923	316782001	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Zinc	ug/L	ND	250	250	251	238	100	95	70-130	5	



Project: Bremo Weekly Process

Pace Project No.: 92316787

Date: 10/24/2016 05:01 PM

QC Batch: 327513 Analysis Method: EPA 218.7

QC Batch Method: EPA 218.7 Analysis Description: Chromium, Hexavalent IC

Associated Lab Samples: 92316787001

METHOD BLANK: 1748329 Matrix: Water

Associated Lab Samples: 92316787001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Chromium, Hexavalent ug/L ND 1.0 10/21/16 10:33

LABORATORY CONTROL SAMPLE: 1748330

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chromium, Hexavalent ug/L .075 .079J 105 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1748331 1748332

MS MSD 92316782001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Chromium, Hexavalent ug/L ND .075 .29J 85-115 .075 .29J 101 105 1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

(704)875-9092



QUALIFIERS

Project: Bremo Weekly Process

Pace Project No.: 92316787

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

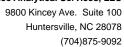
TNI - The NELAC Institute.

LABORATORIES

Date: 10/24/2016 05:01 PM

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte
PASI-E	Pace Analytical Services - Eden

PASI-O Pace Analytical Services - Ormond Beach





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Bremo Weekly Process

Pace Project No.: 92316787

Date: 10/24/2016 05:01 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92316787001	T2-161019-1354-S3	SM 2540D	334076		
92316787001	T2-161019-1354-S3	EPA 350.1 1993 Rev 2.0	334070		
92316787001	T2-161019-1354-S3	SM 4500-CI-E-2011	334114		
92316787001	T2-161019-1354-S3				
92316787001	T2-161019-1354-S3	EPA 1664B	334034		
92316787001	T2-161019-1354-S3	EPA 200.7	327454	EPA 200.7	327498
92316787001	T2-161019-1354-S3	Trivalent Chromium Calculation	327535		
92316787001	T2-161019-1354-S3	EPA 200.8	327455	EPA 200.8	327500
92316787001	T2-161019-1354-S3	EPA 245.1	334283	EPA 245.1	334311
92316787001	T2-161019-1354-S3	EPA 218.7	327513		

Face Analytical*

Project Manager SRF Review:

Out of hold, incorrect preservative, out of temp, incorrect containers)

Document Name: Sample Condition Upon Receipt(SCUR)

Document No.: F-MEC-CS-009-Rev.03 Document Revised: May 24, 2016

Page 1 of 2
Issuing Authority:

Pace Mechanicsville Quality Office

WO#:92316787 Sample Condition Upon Project #: Courier: Client Commercial Pace Other: Custody Seal Present? ΠNo Yes ☐ No Seals Intact? Date/Initials Person Examining Contents: 10-20-16 Packing Material: Bubble Wrap Bubble Bags None Other: Thermometer: ₩et Blue None Samples on ice, cooling process has begun RMD001 Type of Ice: Correction Factor: 0.0°C Cooler Temp Corrected (°C): Biological Tissue Frozen? Yes No Temp should be above freezing to 6°C USDA Regulated Soil (N/A, water sample) Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? Did samples originate from a foreign source (internationally, Yes No including Hawaii and Puerto Rico)? Tes Comments/Discrepancy: Chain of Custody Present? Viyes □No □N/A 1. Samples Arrived within Hold Time? □N/A Short Hold Time Analysis (<72 hr.)? No □N/A Rush Turn Around Time Requested? □ No □N/A 4. Sufficient Volume? Yes □No □N/A Correct Containers Used? Yes □No □N/A -Pace Containers Used? Yes No □N/A Yes Containers Intact? No □N/A Samples Field Filtered? □No M/A 8. Note if sediment is visible in the dissolved container Yes Sample Labels Match COC? Yes No □N/A -Includes Date/Time/ID/Analysis Matrix: All containers needing acid/base preservation have been 10. HNC3 pH<2 checked? □ No □N/A HCI nH<2 All containers needing preservation are found to be in compliance with EPA recommendation? H2SO4 pH<2 (HNO₃, H₂SO₄, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) □No □N/A NaOH pH>12 Exceptions: VOA, Coliform, TOC, Oil and Grease, NaOH/ZnOAc pH>9 DRO/8015 (water) DOC, LLHg Wes □No □N/A Samples checked for dechlorination? Yes □No N/A Headspace in VOA Vials (>5-6mm)? Yes □No MN/A 12. Trip Blank Present? Yes MN/A 13. □No Trip Blank Custody Seals Present? MN/A Yes □No Pace Trip Blank Lot # (if purchased): CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No Person Contacted: Date/Time: Comments/Sample Discrepancy: Date: 10/21/16 Project Manager SCURF Review:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e.

00019928 age 25 of 26

Date:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT All relevant fields must be completed accurately.

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92316787 Pace Project No./ Lab i.D.	Residual Chlorine (Y/N)	SM4500 - Chloride 1664B - Oil&Grease 350.1 - Ammonia-N SM2540D - TSS 200.7 - Hardness	200.8 - Ag, 🎉 T (245.1 - Hg 218.6(7) - Cr (VI)	1 Analysis Test 1 200.8 - Sb, As, Cd, Cr (III) 200.8 - Pb, Ni ,Se, Zn, Cu	Methanol Other	Na ₂ S ₂ O ₃	HCI NaOH	H ₂ SO ₄ HNO ₃	Unpreserved	# OF CONTAINERS	SAMPLE TEMP AT COLLECTION	RAB	COMPOSITE ENDIGRAB	TIME	COMPOSITE START	SAMPLE TYPE (G=GRAB C=C	MATRIX CODE (see valid codes	18 OU SE P P WW W W W W W W W W W W W W W W W W	DOBBRIDO WATER WATER WATER WASTE WATER PRODUCT SOIL SOLED OIL WIFE AIR OTHER OTHER	SAMPLE ID (A-Z, 0.9 /,-) Sample IDs MUST BE UNIQUE	mennet filmmen in die detweie einstelle untwerzen der der de der der der der der der der	ITEM#
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